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Promoting Traditional Cultural Practices for Disaster Risk Reduction: A Preliminary Study on the Use of *Gotong-Royong* in Siosar Protected Forest in North Sumatra, Indonesia

Petrayuna Dian Omega

Universitas Kristen Krida Wacana, Department of Psychology, Tanjung Duren Raya No.4 Jakarta Barat; 11470; +62 (0)21 566 6952, petra.omega@ukrida.ac.id

Abstract

In 2016, the Indonesian government used around 450 hectares of the Siosar Protected Forest (SPF), owned by the Ministry of Environment and Forestry, for the relocation of three villages affected by the eruption of Mount Sinabung. The use of this protected area for relocation has caused deforestation, increasing its vulnerability to disasters. This paper explores the incorporation of traditional cultural practices for disaster risk reduction in the SPF. In the study, based on observation and interviews, it was found that the local community inhabiting the vicinities of the SPF has continuously performed the traditional practice of gotong-royong (communal work) for maintaining the forest. In this paper, the author proposes the use of gotong-royong as a tool for the implementation of disaster risk reduction plans, while reinforcing the linkages between nature conservation and the safeguarding of the intangible cultural heritage of the local and relocated communities. Moreover, the author suggests reconsidering the use of the SPF for relocation purposes while implementing comprehensive disaster risk reduction plans for its sustainability.

KEY WORDS: Siosar Protected Forest, Disaster Risk Reduction, Relocation, Gotong-royong

1. Introduction

Mount Sinabung, in North Sumatra-Indonesia, erupted in September 2010 and has been erupting continuously since September 2013 [Fig. 1] (Gunawan et al. 2017). The eruptions have affected homes and farming areas, causing the evacuation of the surrounding communities. The evacuees stayed in refugee camps for several years and experienced difficulties in their living conditions, sleeping in small tents or in the villages' meeting halls (known as *Jambur*). Even though the government still provides the minimum logistic supplies, the refugee camps have limited food, space, and water supply, as well

as poor hygienic conditions and air circulation, causing discomfort and an unhealthy environment. The residents of three villages (Simacem, Suka Meriah, and Bekerah), located at Mount Sinabung, initially stayed at refugee camps but have since been relocated, in 2016, to reside within the Siosar Protected Forest (SPF), a protected area located about 43.2 km from Mount Sinabung [Fig. 2]. The residents of the Bekerah and Simacem villages were moved to a place called Namantaran, while the residents of the Suka Meriah village were relocated to another place, called Payung (Kompas 2018). Since the relocation, the residents of these three villages are neighbors within the SPF.



Figure 1: Mount Sinabung eruption (author's personal collection, 6 May 2016)

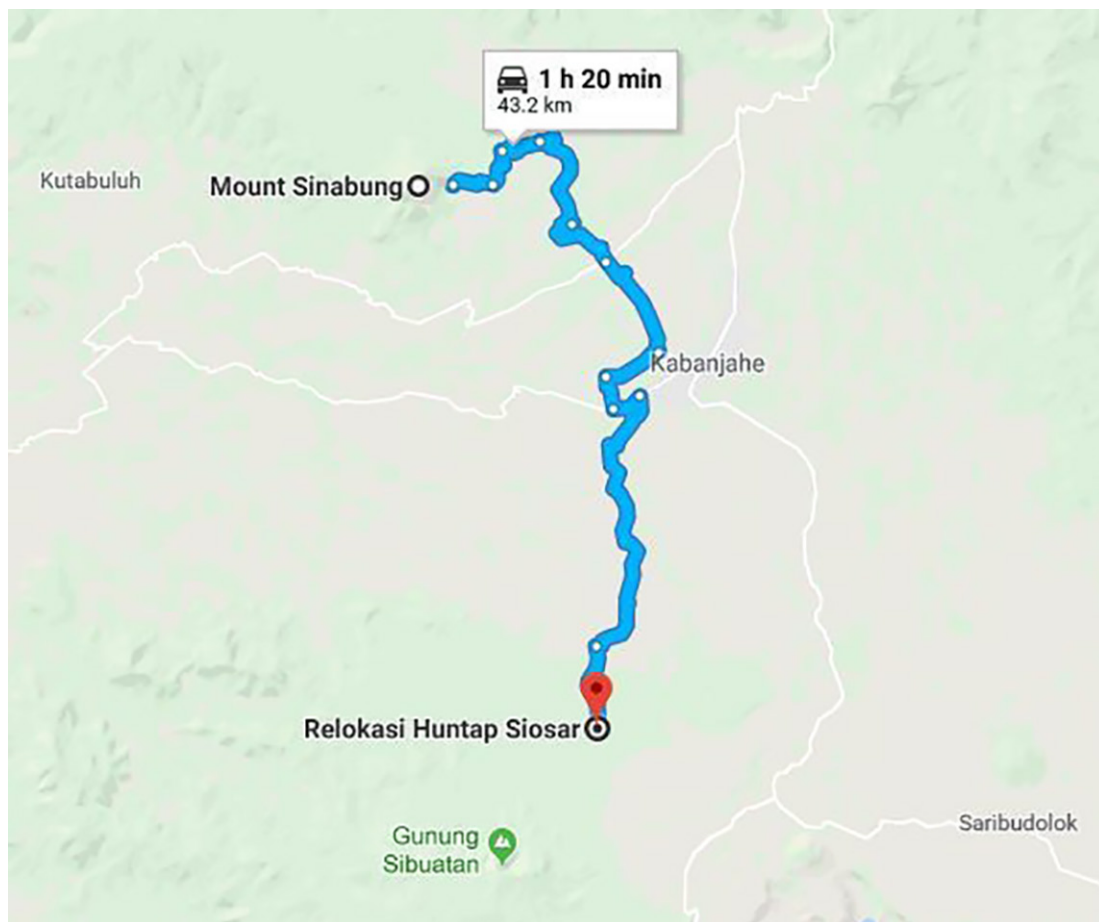


Figure 2: Map indicating the distance between Mount Sinabung and Relocation Centre Siosar (Google Maps, 16 November 2018)

The Siosar Protected Forest is located on the Mount Sibuatan, in the Karo county, in North Sumatra province of Indonesia [Fig. 3]. The SPF is owned and managed by the government, under the Department of Forestry (Analisdaily 2016), as a conservation area. In 2015, part of the SPF was allocated for refugees' residences and farms, increasing the forest's vulnerability to disasters, such

as forest fires and landslides, through deforestation [Fig. 4]. The relocated residents live in stressful conditions at Siosar because some of them could not work in the farms nearby. Vegetable seeds, such as potatoes, were not sufficiently provided by the government at the time of relocation, forcing some of the relocated residents to go back to agricultural work in their village of origin at Mount Sinabung.

Furthermore, their farming land is limited and, as a result, their income has been reduced. The Indonesian government has provided this residence area temporarily within the SPF which could cause new problems when relocating these communities again.

This paper explores the incorporation of traditional cultural practices for disaster risk reduction in the SPF. In the study, based on observation and interviews, it was found that the local community inhabiting the vicinities of the SPF has continuously performed the traditional practice of *gotong-royong* (communal work) for maintaining the forest. In this paper, the author proposes the use

of *gotong-royong* as a tool for the implementation of disaster risk reduction plans, while reinforcing the linkages between nature conservation and the safeguarding of the intangible cultural heritage of the local and relocated communities. Moreover, the author suggests reconsidering the use of the SPF for relocation purposes while implementing comprehensive disaster risk reduction plans for its sustainability.

2. Significance of the Siosar Protected Forest

The Siosar Protected Forest, at Mount Sibutan, is part of the Sumatra Tropical Rainforest and extends

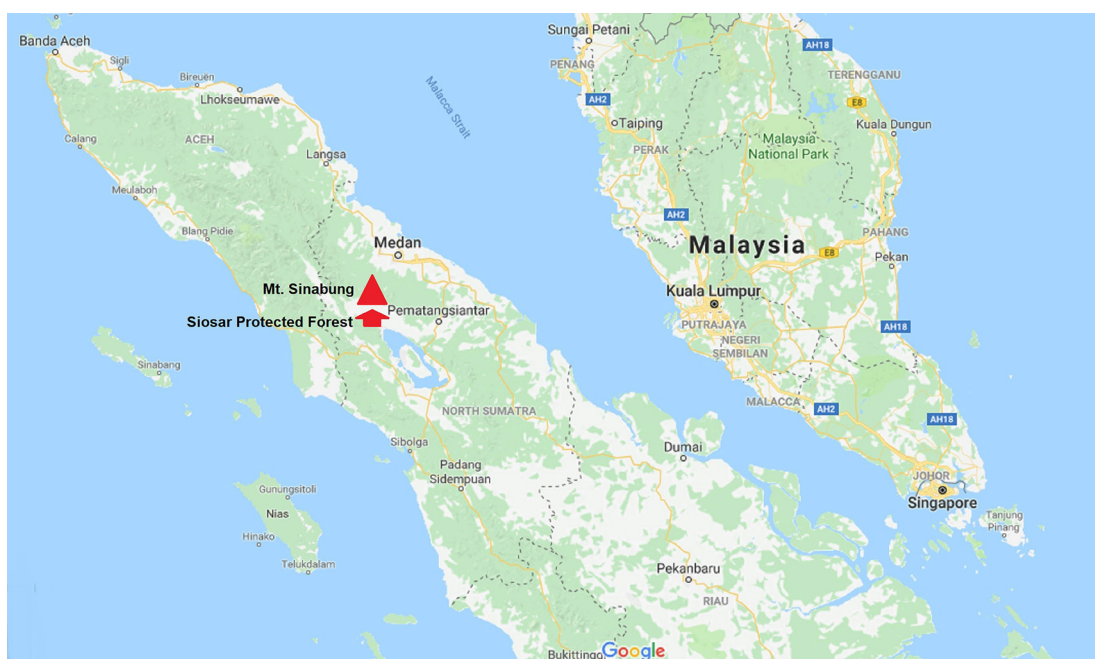


Figure 3: Map indicating Mount Sinabung and Siosar Protected Forest (Google Maps, 30 August 2018)



Figure 4: Deforestation in Siosar Protected Forest Relocation (author's personal collection, 5 May 2016)

1,650 km, from the Aceh to Lampung province (Kompas 2012). Sumatra Tropical Rainforest is one of the 200 ecoregions in the world that is in critical condition (Olson & Dinerstein 2002). The SPF is located about 200 km from Mount Leuser National Park, part of “The Tropical Rainforest Heritage of Sumatra” (TRHS) that was inscribed on the World Heritage List in 2004 (UNESCO 2018) and has been on the List in Danger since 2011, due to a severe deterioration of the natural forest caused by agricultural development (UNESCO 2018). The SPF on Mount Sibuatan contributes to strengthening the TRHS by supporting the migration of animals from Mount Leuser National Park, especially its 580 species of birds (UNESCO 2018).

The SPF has been claimed by the Sukamaju village as their customary land since 1975 (Analisdaily 2016) and it represents their cultural identity. They practice communal work, or as it is called *gotong-royong* in the Indonesian language. *Gotong-royong* is a traditional cultural practice that exists in almost every area in Indonesia and is a form of collaboration by members of the community working on the same project for non-economical reward (Effendi 2013). Sukamaju village has continuously practiced *gotong-royong* for environmental management, especially for maintaining the SPF, showing the linkages between the conservation of nature and the safeguarding of intangible cultural heritage.

■ 3. Current management arrangements

3.1 Official Institutional Management

The current management in the SPF involves different stakeholders, such as the Ministry of Environment and Forestry, Karo county government, Indonesian Armed Forces (TNI), and the Ministry of Public Works. They work together coordinating their different roles. The use of the land at SPF for the relocation centre was permitted by the Ministry of Environment and Forestry through the initiative of Karo Forestry Department and Karo county government (Analisdaily 2016). Indonesian Armed Forces built a small military base at the beginning of the relocation process at the Siosar relocation centre in order to secure the conditions and to avoid conflicts between the refugees and the local villagers. Meanwhile, the Ministry of Public Works built homes for 370 families from the three villages, Simacem, Suka Meriah, and Bekerah, in 2015 (Waspada 2015).

3.2 Community-based Management

The Sukamaju village community follows the traditions of *jambur*, a traditional meeting hall used to discuss general problems that occur in the village, and *gotong-royong*. *Gotong-royong* is used to maintain the nature and the forest around the village. For instance, they have done *gotong-royong* for planting trees in 1975, with the cooperation of the local government. The forest and landscape vulnerability which increased due to the relocation centre could be mitigated at present by using *gotong-royong* to restore the forest. However, the residents of the relocation centre do not perform *gotong-royong* because they are new in this area.

■ 4. Current State of Conservation and Challenges for Continuity

As Mount Sinabung continues to erupt, new villages may need to be evacuated. Deforestation caused by the Siosar relocation centre and its farms could increase due to the possibilities for new villages to be relocated to the same area. Deforestation increases the vulnerability of the SPF, exposing the area to hazards and risks that may cause water-related disasters, for example, landslides and floods (UNISDR 2015).

Since the three villages were relocated to the SPF, conflict emerged with the Sukamaju village because the community did not want to lose their forest. However, the Head of Karo County Forestry stated that the SPF belongs to the government under the Department of Forestry (Analisdaily 2016). The relocation of residences and farms threatens the SPF and the culture of *gotong-royong*, which has been continued by the Sukamaju village community for maintaining their forest. Without *gotong-royong*, deforestation will advance, increasing the vulnerability of the protected area, the relocated communities, and the surrounding villages, such as Sukamaju.

Furthermore, the eruption of Mount Sinabung caused socio-economic and psychological vulnerabilities for the evacuees. The relocated residents are exposed to health problems, food scarcity, and lack of education infrastructures aggravated by their location in a remote area, such as the SPF [Fig. 5]. Besides, the relocation could be adding to the disaster and displacement trauma of the affected communities.



Figure 5: Relocation centre residences in the Siosar Protected Forest (author's personal collection, 5 May 2016)

5. Recommendations

The author described the current state and the challenges for the conservation and maintenance of the forest landscape in the Siosar Protected Forest. The main issues encountered are deforestation and conflicts among relocated communities and the local community. The author suggests that promoting *gotong-royong*, a traditional practice of communal work, could help all communities (Suka Meriah, Simacem, Bekerah, and Sukamaju villages) to become involved in both restoring the damaged forests and solving conflicts among them. *Gotong-royong* has been continuously practiced and can be a social capital to solve problems in Indonesia (Irfan 2016), such as for the three villages relocated in the SPF and the local Sukamaju community. Restoring the forest using *gotong royong* would not only decrease the risks to disasters but would also support rainfall absorption to regulate the water supply in the SPF. Furthermore, the government could promote the use of *gotong-royong* to implement disaster risk reduction plans in the SPF, linking the safeguarding of intangible cultural heritage to the conservation of nature.

Finally, the author recommends incorporating cultural practices, such as *gotong-royong*, into formal policy frameworks for sustainable forest management, to maximise community involvement. It could promote stakeholders engagement in the management of other problems and challenges, such as sustainable food supply. Moreover, relocation trauma could be avoided by embracing cultural practices that could support better integration between the relocated communities and the local community.

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